Comparison of serum uric acid and gamma-glutamyltranspeptidase (GGT) level in obese individuals and non-obese individual

ABSTRACT

Obesity is usually accompanied by excess presence of adipose tissue in the body which could cause excess xanthine oxidoreductase (XOR) production. Uric acid levels can increase with an excess of XOR production. Increased body fat also promotes fat deposition in the liver. Excess fat deposition induces the release of abundant reactive oxygen species (ROS) resulting in oxidative stress. Thus, this promotes an increase in serum gamma-glutamyltranspeptidase (GGT) level, which has potential anti-oxidative stress properties. This study aimed to identify the changes on serum uric acid and GGT level with association to waist to hip ratio (WHR) circumference in obese and non-obese individuals. A total number of 30 individuals aged between 20-45 years old participated. Data was analyzed using Mann Whitney U test and Spearmanôs rho test which was considered statistically significant at $P<0.05$. The variables in both male and female obese and non-obese individuals, the result shows significant, positive correlation even though all the variables showed positive correlation for both groups of obese and non-obese individuals, the strength of the relationship in obese individuals was much stronger than non-obese individuals. In the conclusion, increment of serum uric acid and GGT level were related with increased value of BMI and WHR as shown in previous studies.

Keyword: Serum uric acid; Gamma-glutamyltranspeptidase (GGT); Body mass index (BMI); Waist to hip (WHR); Xanthine oxidoreductase (XOR); Obesity